

DOVE
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Information **Heuchera rust**

Rust diseases are common fungal infections that affect a wide range of ornamental crops. These include Althaea, Antirrhinum, Aster, Campanula, Carnation, Fuchsia, Geranium, Gladiolus, Helianthus, Hypericum, Iris, Lilium, Mahonia, Poinsettia, Ribes, Solidago, Tagetes and Viola (including pansy). Rusts cause a negatively visual impact on the plant and are obligate parasites that depend on a live host for growth and development but seldom kill their host plant. Heuchera rust lives its whole lifecycle on the Heuchera plant and would seem not to transfer to any alternative hosts. However, rust infection *Puccinia heucherae* on Heuchera, which is not very common, can reduce the plant health and vigour as well as the aesthetic value.

Symptoms

The first thing that is noticed is small raised bumps on the top surface of the leaf, which when turned over display clumps of yellow pustules. If you tap the leaves onto a piece of plain paper you can sometimes see the spores fall onto it. You will usually see these on the older leaves of the plant rather than the new foliage. The disease favours warm, humid conditions from around 10°C which is why it tends to show on the older leaves that are covered in the plant canopy and protected from air movement and direct sunlight.



Control

As part of your control programme try to keep the humidity under control, particularly during warm nights by ventilation and lowering the humidity will reduce the risk of infection. If you stand crops on sand beds or capillary matting increase the spacing to allow air movement between plants. Benches with mesh bases will improve the conditions too. If you water the crops overhead in the evening, it means that the foliage will stay wet all night and well into the morning allowing disease to develop so try to water in the morning and reduce the wet period. Providing adequate ventilation in tunnels is important by opening the doors during the day, and particularly in the morning to exchange the overnight air.

Use plant protection products safely. Always read the label and product information before use

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There are a range of treatments for rust control. A routine programme that covers both a protectant and an eradicant product provides the best foliage protection. If you see infected leaves, the levels of infection can be reduced by picking off the leaves and following that with a fungicide spray. The removal of heavily infected plants is advisable. Rusts are spread very easily by water splash and wind movement so prompt action as soon as you see it is critical.

Some fungicides will not control active rust as well as others so a careful selection of products used and application timing is important. The disease tends to develop once the weather has started to warm up so protective sprays would normally start in late April or early May. Add a wetting agent to the spray to ensure good coverage and penetration of the inner foliage. In the table below, it is important to note that not all products can be used on protected crops. Rotate products using different FRAC codes to prevent disease resistance.

Control product	[F]ield [G]lass [E]radicant [P]rotectant	FRAC code
Amistar*	F/G E/P	11
Bravo 500*	F P	M5
Bumper 250 EC*	F/G E/P	3
Corbel**	F E/P	5
Cuprokylt*	F P	M1
Difcor 250EC**	F/G E/P	3
Folicur**	F E/P	3
Nativo 75WG**	F E/P	3 + 11
Plover*	F/G E/P	3
Signum*	F/G E/P	7 + 11
Sythane 20 EW	F/G P	3
Swift SC*	F P	11
Topas	F/G P	3
Torch*	F E/P	5
Vivid*	F E/P	11

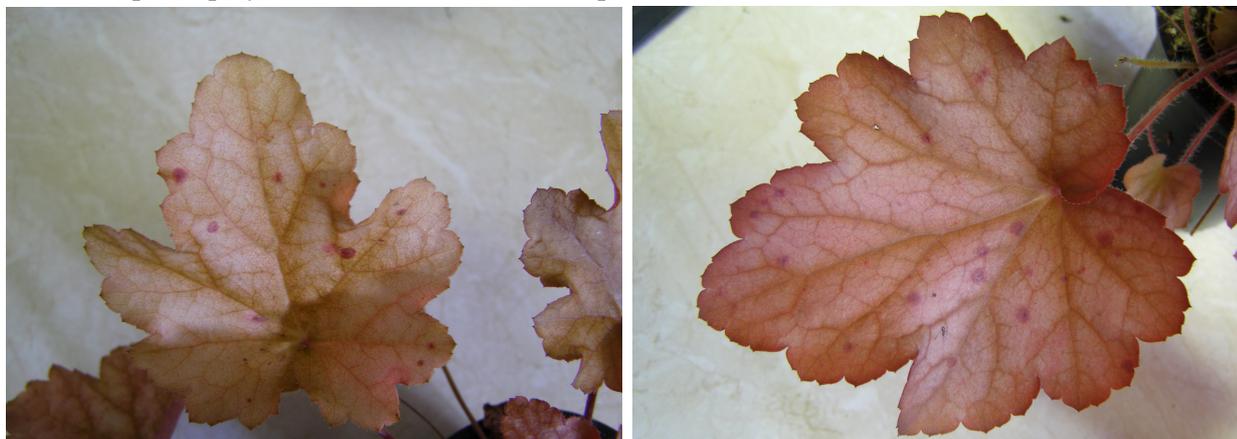
* = Extension of Authorisation for Minor Use required for use in ornamental plant production

** = Long-Term Arrangements for Extension of Use (LTAEU)

Bumper 250EC and Folicur may produce a growth regulant effect.

Clean up dead leaves and plant debris after cropping and spray the bed area with an approved disinfectant to sanitise it. If you pick off infected leaves at dispatch do not store them near to cropping areas.

Other leaf spots have been observed on Heuchera plants but they do not necessarily develop into rust. If you see these spots, spray the leaves with Octave as a precaution.



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